



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D2580-1
Job Sheet 184834



Part No: D2580-1

Job Qty: 4 ea

Part Name: 205 Bent Tube



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 10/17/18

Job Tracking No:

Due Date: 11/2/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG D2580 REV H SHEETS 1,2,3,8 IPP B 01.11.08 Revised Step 9, 10, 12, and 13 SM IPP Rev:C 10.12.01
as per DEO D1 DD ver:ec

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	4 Ea	11/2/18	11/2/18	0.00	0.00	Start Up Skid tubes		TF
100	Skid tubes	4 pcs	11/2/18	11/2/18	0.00	3.70	Skid tubes		TF
101	QC	4 pcs	11/2/18	11/2/18	0.00	0.00	QC5		BE
110	HandFinish	4 pcs	11/2/18	11/2/18	0.00	1.67	HandFinish1		DR 18/10/25
120	QC	4 pcs	11/2/18	11/2/18	0.00	0.00	QC7		WAGG
125	Skid tubes	4 pcs	11/2/18	11/2/18	0.00	3.70	Skid tubes		SS
130	QC	4 pcs	11/2/18	11/2/18	0.00	0.00	QC5		BE
140	Packaging	4 pcs	11/2/18	11/2/18	0.00	0.00	Packaging3		J-W
150	QC21-SA	4 Ea	11/2/18	11/2/18	0.00	0.00	QC21		21 OCT 30 2018

Part Op 100 - 1- Inspect mat'l D2500-1-190 for damage. 2-Drill pilot holes using drill jig DT 8149 A-BC-D 3-Open holes to 0.508"
Descriptions: as per Dwg D2580 4-Deburr holes per QSI002 section 4.2.3 and blow out all chips from inside of tube 5- Test fit inspection saddles on FWD & AFT saddle holes using DT9916.

125 - 1- Bond web in place per QSI 015. A/R Sikaflex-291 batch: _____ Sikaflex expire date: _____ Start time and date: _____ bond for 12hrs

140 - LOCATION : LG002

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2500-1-190	Ext'n -I' Beam Tube 4"	4 Ea (1 ea)	90-Start up Operation	5112963
D2596	Web, 205 Skid tube	4 Ea (1 ea)	125-Skid tubes	5112894

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2500-1-190	4	76	0
125-Skid tubes	D2596	4	4	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																				
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Date : _____		MRB (QSI042) Approval																																						
Description V 1270 Aberdeen Street Newbury, ON K6A 1K7 CANADA TEL.: 1 613 632-5200 Email: sales@dartaero.com www.dartaerospace.com Date: 10/24/18 DART AEROSPACE Container No: S120873 Part: D2580 - 1 Job No: 184834 Serial No/Batch: S120873 Revision: H Inspector: Exp Date: Instructions: Various STC's		Completed By																																						
		Lead hand / Supervisor Approval Verification																																						
		QC / QA Coordinator Approval																																						
		Root Cause <table style="width:100%;"> <tr> <td>Environment ☐</td> <td>No Re-vel ☐</td> <td rowspan="10" style="vertical-align: top;"> Centre NOT CONCERNED Cracks Crimp/Kink/Ripple/Wave Cuffs Crushing Heat Treat Wave/Twist in Tube Marks/Chatter </td> <td rowspan="10" style="vertical-align: top;"> Broken/Damage/Derect Inspection Incomplete/Unqualified Contamination Countersink Cut Too Short Instructions Incomplete/Unclear Drill Holes </td> <td rowspan="10" style="vertical-align: top;"> s/Surge ram Wrong Stock Pulled Out of Sequence Off-set Mislabeled Fit/Function Misaligned/off center </td> <td>Positioned Wrong ☐</td> </tr> <tr> <td>Design ☐</td> <td>Operator ☐</td> <td>Outside Dimensions ☐</td> </tr> <tr> <td>Doc/Data ☐</td> <td>Offset/Setup ☐</td> <td>Over/Under tolerance ☐</td> </tr> <tr> <td>Equip/Tooling ☐</td> <td>Supplier ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Handling/Pre ☐</td> <td>Training ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Material ☐</td> <td>Use for Testing ☐</td> <td>Part Moved ☐</td> </tr> <tr> <td>Internal Transport ☐</td> <td>Poor Information ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Tribal Knowledge ☐</td> <td>Rushing ☐</td> <td>Finish ☐</td> </tr> <tr> <td>LOA ☐</td> <td>Product Improvement ☐</td> <td>Misread ☐</td> </tr> <tr> <td>Substation ☐</td> <td>Process Improvement ☐</td> <td>Turning Sequence ☐</td> </tr> <tr> <td>Past Expiry Date ☐</td> <td>Manufacturing Process ☐</td> <td colspan="2" rowspan="2" style="vertical-align: top;"> OTHER : _____ </td> </tr> <tr> <td>Misidentified ☐</td> <td>Past Due ☐</td> </tr> </table>		Environment ☐	No Re-vel ☐	Centre NOT CONCERNED Cracks Crimp/Kink/Ripple/Wave Cuffs Crushing Heat Treat Wave/Twist in Tube Marks/Chatter	Broken/Damage/Derect Inspection Incomplete/Unqualified Contamination Countersink Cut Too Short Instructions Incomplete/Unclear Drill Holes	s/Surge ram Wrong Stock Pulled Out of Sequence Off-set Mislabeled Fit/Function Misaligned/off center	Positioned Wrong ☐	Design ☐	Operator ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Finish ☐	LOA ☐	Product Improvement ☐	Misread ☐	Substation ☐	Process Improvement ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____	
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ITEM	QTY -041	QTY -045	QTY -047	QTY -049	PART NUMBER	DESCRIPTION
1	X				D2580-041	SKIDTUBE ASSEMBLY
2		X			D2580-045	SKIDTUBE ASSEMBLY
3			X		D2580-047	SKIDTUBE ASSEMBLY
4				X	D2580-049	SKIDTUBE ASSEMBLY
20	1	1	1	1	D2500-1-190	EXTRUSION
21			16	16	D2570	BUSHING
22	1	1	1	1	D2578-3	STEP
23		4			D2579	SPACER
24	16	16	8	8	D2594-1	PLUG
25	16	16	8	8	D2594-3	O-RING
26	1	1	1	1	D2596	205 WEB
27	1	1	1	1	D2855	AFT CAP
28	1	1			D3584-5	WEARSHOE
29	1	1			D3584-9	WEARSHOE
30	1	1			D3584-11	WEARSHOE
31	1	1			D3584-13	WEARSHOE
32	20	20	24	24	D4202-1	SPACER
33			1		D4408-041	WEARPLATE ASSEMBLY
34			1		D4408-043	WEARPLATE ASSEMBLY
35				1	D5081-1	FWD WEARPLATE
36				1	D5081-3	AFT WEARPLATE
50	50	50			ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
51	50	50			AN3C4A	BOLT
52	2	2	2	2	AN3-5A	BOLT
53			8	8	AN4-45A	BOLT
54	50	50			NAS1149C0332R	WASHER (AN980C10L)
55	2	2	2	2	NAS1149D0332J	WASHER (AN980JD10L)
56			8	8	MS21042-4	NUT (OR MS21042L4)

GENERAL NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION PER DART QSI 005 4.1 PRIOR TO INSERTING D2580 WEB
POWDER COAT (-041/-047/-049) GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
POWDER COAT (-045) GREEN SANDTEX (REF 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4.
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D2580-041 = 33.7 lbs
D2580-045 = 33.7 lbs
D2580-047 = 45.1 lbs
D2580-049 = 32.0 lbs
- 8) WELDING PER DART QSI 004.
- 9) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 10) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 11) USE DART DRILL TEMPLATE DT8217 & DT8937 ONLY FOR D2580-041/-045 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTIONS B-B AND F-F (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241-281.
- 12) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES FOR D2580-041/-045 AND 8 PLACES FOR D2580-047/-049)
- 13) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT

WITHOUT NOTICE
WORK ORDER

NO. 184834 MJS
18-10-17

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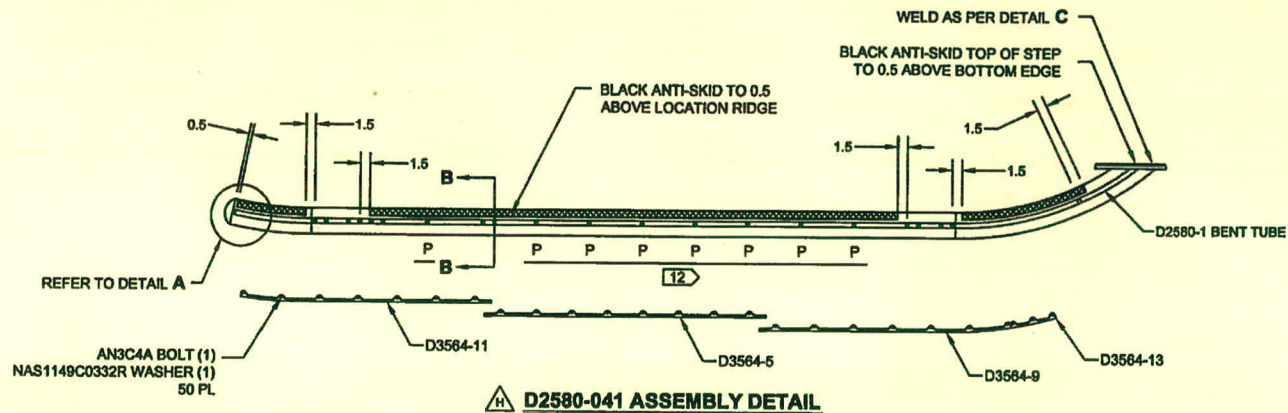
2017 JUL 05 4P
ECN17-569

H	SHEET: PL DELETE D3686-1/-5/-13 GASKETS, WEIGHTS UPDATED ACCORDINGLY. SHEETS 2 & 4 PICTORIAL UPDATE FOR REMOVAL OF GASKETS	SAD	17.06.09
G	ADDED -049, -047 WEIGHT UPDATED PER DSI 9598	AJS	14.04.09
F	INCORPORATE DEO D2580-E-1 PER PAR12-218	DC	13.06.20
E	ADD D2580-047 (ZN C4-7) AND D2580-7 (ZN B3-8); INCLUDED DEO D2580-D-1; REFORMATTED DRAWING TO CURRENT STANDARDS; DT8217 & DT8937 WAS TD2577-205 (ZN C4-1)	RF	11.06.21
D	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/ 9183	PH	07.04.06
C	REDRAWN, INCLUDED DEO 9094/ 9097	CP	06.06.26
B	AS MANUFACTURED	DS	06.12.02
A	NEW ISSUE	DS	06.06.16
REV.	DESCRIPTION	BY	DATE
DESIGN	DS		
DRAWN	SAD		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	17.06.09		

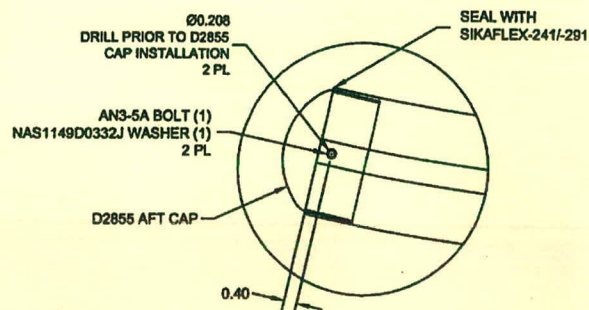
DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D2580
TITLE 205 SKIDTUBE ASSEMBLY
REV. H
SHEET 1 OF 9
SCALE
NTS

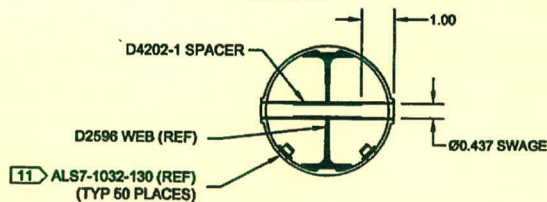
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DETAIL A
SCALE 5X

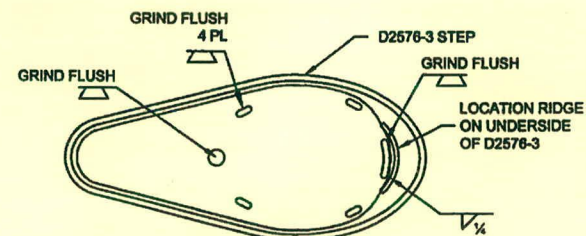


SECTION B-B
SCALE 5X



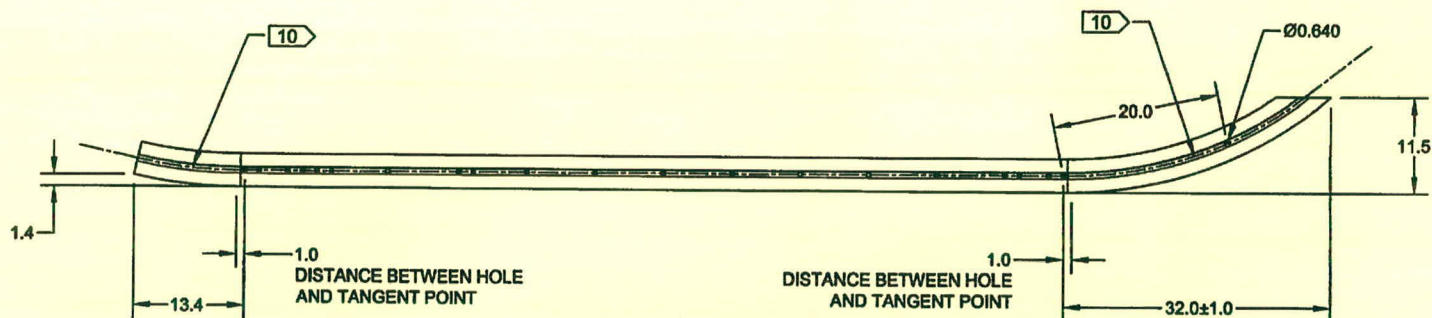
AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. INSERT D4202-1 SPACER (20 PLACES)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

DETAIL C
SCALE 5X



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2017 JUL 05

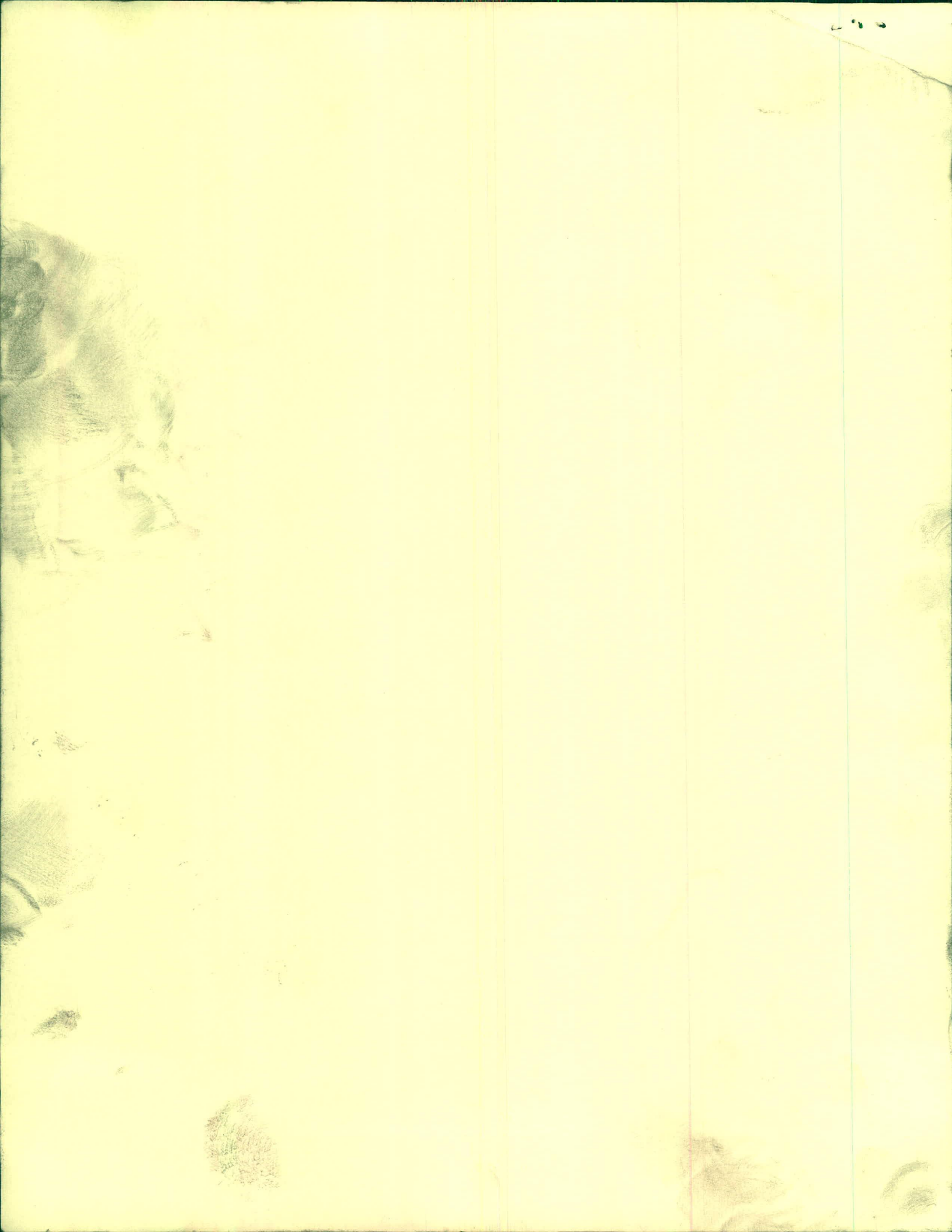
DESIGN	DS	DART AEROSPACE LTD	
DRAWN	SAD	HAWKESBURY, ONTARIO, CANADA	
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MFG. APPR.	<i>[Signature]</i>	D2580	SHEET 2 OF 9
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	205 SKIDTUBE ASSEMBLY	NTS
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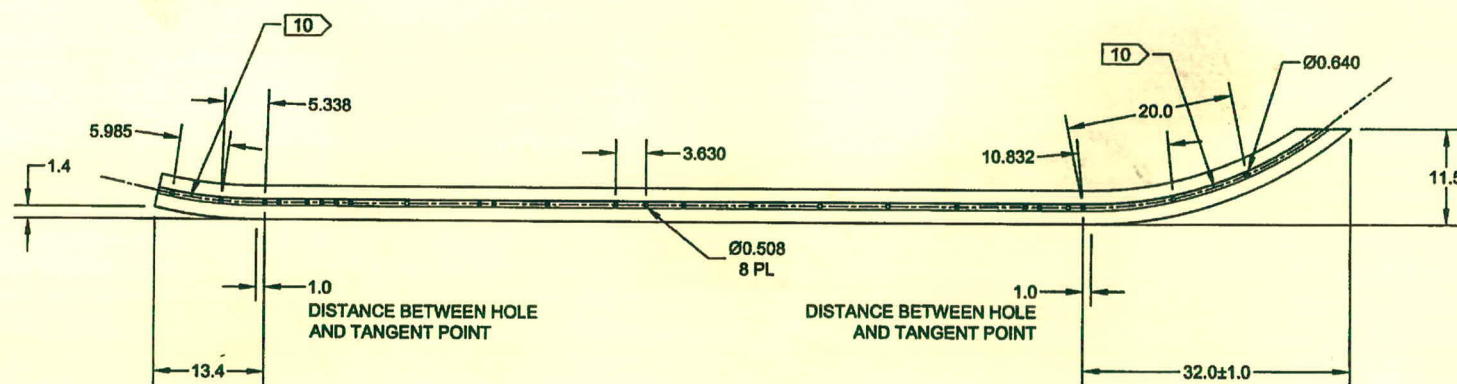


D2580-1 BENT TUBE
(MAKE FROM D2580-101 TUBE)

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2017 JUL 05 *up*

DESIGN	DS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SAD		
CHECKED	<i>[Signature]</i>	DRAWING NO. D2580	REV. H SHEET 3 OF 9
MFG. APPR.	<i>[Signature]</i>	TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
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DATE	17.06.09		





D2580-7 BENT TUBE
(MAKE FROM D2580-101 TUBE)

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2017 JUL 05

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MFG. APPR.	<i>[Signature]</i>	D2580	SHEET 8 OF 9
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	205 SKIDTUBE ASSEMBLY	NTS
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